

10. (Amended) A method of manufacturing a nitride-based semiconductor device, comprising the steps of:

growing a buffer layer of $\text{Al}_x\text{Ga}_{1-x}\text{N}$ ($0 \leq x \leq 1$) on a substrate at a growth rate of at least $7\text{\AA}/\text{sec}$; and

growing a nitride-based semiconductor layer including an active device region on said buffer layer and made of $\text{Al}_a\text{B}_b\text{In}_c\text{Tl}_d\text{Ga}_{1-a-b-c-d}\text{N}$ ($0 \leq a < 1$, $0 \leq b < 1$, $0 \leq c < 1$, $0 \leq d < 1$, $a+b+c+d < 1$) on said buffer layer, wherein

said step of growing the buffer layer comprises growing said buffer layer to have a film thickness in the range from 50\AA to 300\AA .